SAN FRANCISCO BAY AREA TRANSIT-ORIENTED DEVELOPMENT STUDY







TASKS 4A, 4B & 4C: TYPES AND DISTRIBUTION OF TOD OPPORTUNITIES IN THE BAY AREA

April 2005



Prepared for MTC by:

Reconnecting America's Center for Transit-Oriented Development with:

Strategic Economics Calthorpe Associates

For more information contact: MTC Project Manager - Valerie Knepper at: vknepper@mtc.ca.gov or (510) 464-7821

TABLE OF CONTENTS

I.	Purpose	.]
	Background	
	The Opportunities and Challenges of TOD	
	TOD Place types in the Bay Area	
	What Types of TOD Opportunities Does the Bay Area Provide?	
	Distribution of future TOD opportunities by place type	
	I.How Can MTC Help Promote TOD in the Bay Area?	

TYPES AND DISTRIBUTION OF TRANSIT-ORIENTED DEVELOPMENT OPPORTUNITIES IN THE BAY AREA

I. PURPOSE

MTC is developing a set of policies to improve the integration of transportation and land use in the Bay Area – and a more specific policy to condition the allocation of regional discretionary transit funds under MTC's control, provided by Resolution 3434, on supportive land use policies by local jurisdictions. The intent of this paper is to describe the opportunities and issues associated with transit-oriented development in the region, and to identify ways that MTC can best achieve its overall policy objectives.

II. BACKGROUND

In August 2004, MTC commissioned the Association of Bay Area Governments (ABAG) and the Center for Transit-Oriented Development (CTOD) to assess current development conditions around existing and planned transit stations in the Bay Area. ABAG created a Geographic Information System (GIS) database to analyze existing and projected population and employment characteristics in transit-oriented planning areas. ABAG's GIS files compiled information from Census 2000, Projections '03, the Smart Growth Vision and currently adopted General Plans to help answer the following questions:

- What is the current level of land development and what are the population, household and employment conditions around existing and future transit stations?
- What population, household and employment conditions are forecast for the future around existing and future transit stations?
- How much and what types of land use development does the Smart Growth Vision include in these areas and what are the population, household and employment levels expected in this scenario?

CTOD reviewed ABAG's information and prepared an assessment of the housing and job market for the region and how much of this growth is likely to go to transit-oriented sites. CTOD also created a generalized typology of TOD place-types to help further define the opportunities for change in transit-oriented locations and discussed the challenges of meeting the demand for TOD with local government leaders, transit agency representatives and real estate professionals.¹

MTC has an interest in linking land use and transit for several key reasons:

Maximizing transit ridership from patrons who live and work in close proximity
to transit stations allows the provision of more cost effective transit services, by
avoiding the costs of new parking facilities, additional road space and facilities,
and the operating costs of feeder buses;

¹ MTC's Transportation and Land Use Committee and the Joint Policy Committee of MTC, ABAG and the BAAQMD.

- Sustaining existing transit riders and attracting new ones is often easiest when transfers between transit systems are minimized and destinations on the final end of the transit trip are within an easy walk; and
- More people living and working within an easy walk of the transit station means fewer automobile cold starts and better air quality.
- Support for the Smart Growth Vision, as developed cooperatively with the other regional agencies and interested stakeholders.

III. THE OPPORTUNITIES AND CHALLENGES OF TOD

Nationally, there are tremendous shifts occurring in demographics, consumer preferences, employer location strategies and transportation infrastructure investments. These shifts are creating significant demand for walkable, mixed-use neighborhoods near transit, as well as demand for expanding and improving transit service. Indeed, this study finds that the Bay Area is tracking, or in some cases leading, these national trends. As described below, all of the region's growth projections point toward a strong market for transit-oriented development that if captured, could allow public transit to become the armature for a significant portion of regional growth, helping to increase transit ridership as well as decrease traffic and air pollution, increase housing affordability and choice, revitalize urban and suburban neighborhoods, and generate lasting public and private returns.

Transit-oriented development, when done right, creates a mix of uses within walking distance of stations in a design that encourages walking, promotes transit ridership, and provides housing choices. A rich mix of land uses is central to transit-oriented development, and this means that rider-serving amenities such as retail, day care and commercial spaces are available in residential areas, and that office development is integrated into key station areas.

Unfortunately, many of the successful examples of transit-oriented development are the result of "clever exceptionalism," and have required persistent advocacy and extraordinary public attention.³ Because TOD projects are so difficult to execute, there aren't enough good examples to showcase, there are too few developers and planners with expertise in TOD, and too few elected officials and advocates to champion exemplary projects. It is hard to imagine that without further action that market demand will be met. The barriers to delivering high quality projects that meet the objectives of the marketplace, that succeed as places in their own right as well as nodes in the region's

³ The Bay Area is no exception here. Both the Fruitvale Transit Village and the Pleasant Hill BART station project have taken many years and millions of dollars of public subsidy to deliver.

² Some of the findings of this report are taken from "Hidden in Plain Sight: Capturing the Demand for Housing Near Transit," Reconnecting America's Center for Transit Oriented Development, September 2004.

transit systems, and that improve regional transportation system performance are great. There are six common challenges to creating high-performing TOD:⁴

- Finding agreement on the goals and outcomes for a TOD project;
- Balancing the tension between the requirements of making a project a successful place and making it a successful transportation node;
- Reducing complexity, time, uncertainty, and costs;
- Creating a supportive regulatory and policy environment;
- Acknowledging that more than transit is needed to drive real estate investments;
- Convincing investor to recognize TOD as an asset class.

Study after study shows that transit is a viable alternative to the car only if what takes place at either end of the ride meets the needs and desires of a significant number of individuals. Ridership is much higher in regions with frequent service, high quality interconnections, and wonderful, affordable places to live, work and play near transit stations than it is in regions where transit pays little attention to its surroundings. Clearly, the market is changing and there is demonstrable demand for convenient neighborhoods that provide housing and transportation choices. Our challenge is to find ways of climbing over the hurdles and laying the groundwork for communities to realize this untapped market and simultaneously achieve their own dreams.

IV. TOD PLACE TYPES IN THE BAY AREA

This study finds that potential demand for housing and jobs near transit in the Bay Area is likely to be very significant. At least a third of all households will be looking to rent or to buy housing near transit and upwards of 42% of new jobs have the potential to locate within walking distance of BART, light rail, commuter rail, ferry stops and high frequency bus corridors.

These are important figures, since only a portion of all new housing is being built in these locations today and many existing job centers are not located on the existing transit network. There are currently about 600,000 households living within walking distance of transit stations and this study suggests there will be potential to add at least 200,000 more housing units in these areas by the year 2030 and even more if aggressive policies are put in place to promote transit-oriented compact development. Similarly, employers that

⁴ The New Transit Town, Editors Dittmar and Ohland, 2004.

⁵ Cervero, Robert, and Samuel Seskin, An Evaluation of the Relationships Between Transit and Urban Form, Transit Cooperative Research Program, 1995; and J. Richard Kuzmyak, Richard Pratt and G. Bruce Douglas, *Land Use and Site Design: Traveler Response to System Changes*, Transit Cooperative Research Program, 2003.

⁶ Washington D.C., for example, is one place where it is possible to live in the suburbs, close to transit and not own a car: 47 percent of the residents of suburban Arlington County who live within 1/2-mile of metro stations use transit to get to work and 73 percent of transit riders walk to stations. Car ownership rates near Arlington County's stations are much lower than in the region as a whole, and it seems to be by choice, as average household income is higher than the regional average.

generate upwards of 800,000 of the region's jobs are likely to seek out transit-oriented sites.

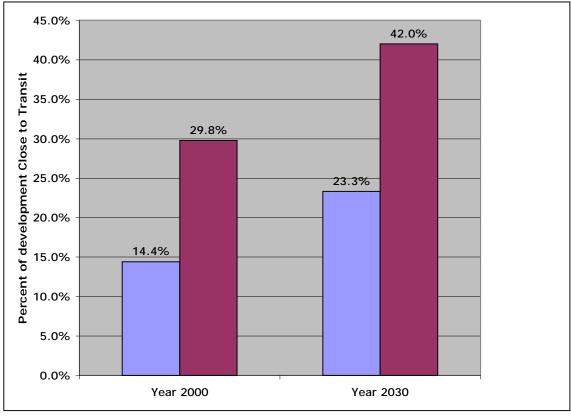


Figure 1: Percent of Population and Jobs Close to Transit (2000-2030)

Year 2000 Population / Jobs

Year 2030 Population / Jobs

Source: Projections '03, ABAG and MTC

The Center for Transit-Oriented Development and Strategic Economics prepared a set of housing and job demand projections for transit-oriented sites in the Bay Area. These projections were compared with ABAG's Projections '03 and the Smart Growth Vision. It is important to recognize that all three sets of projections represent some combination of demand estimates and policy guidance. In other words, though there may be tremendous desire on the part of consumers for housing near transit stations in the Bay Area, realizing this demand will take significant effort on the part of local jurisdictions to plan, zone and permit development on sites within walking distance of transit stations.

⁷ It is important to note that the methodology used by CTOD/SE to estimate the potential demand for housing and jobs near transit is highly conservative, carrying existing capture rates for different types of households and job sectors for each county through the next 30 years. The estimate could be more optimistic if changing consumer preferences were factored in.

By the year 2030, at least a third of household growth in the Bay Area is likely to be seeking out transit-oriented locations. Alameda, San Francisco and Santa Clara counties are expected to accept the largest numerical increases in housing near transit, though counties with small existing transit systems, such as Napa and Solano, will see large percentage increases.

Table 1: Households in Transit Planning Areas: Existing and Demand

	Census 2000	CTOD/SE: Year	ABAG Projections '03, Year 2030	Smart Growth Vision	
	Households	2030 Households	Households	Households*	
Alameda	166,400	236,600	227,300	305,500	
Contra Costa	50,200	81,500	62,400	64,000	
Marin	13,300	20,400	16,400	20,700	
Napa	3,000	7,200	4,100	4,600	
San Francisco	171,000	215,500	224,500	255,600	
San Mateo	54,600	68,400	69,800	87,400	
Santa Clara	132,300	180,900	210,200	243,700	
Solano	9,900	22,700	17,800	32,200	
Sonoma	12,700	28,600	16,700	28,100	
Bay Area Total	613,400	861,700	849,300	1,041,900	
Percentage incr	ease	40%	40%	70%	

Source: ABAG and SE

Single householders and couples without children will generate nearly two-thirds of the total demand for housing near transit, a disproportionate share given the size of these groups relative to the size of the region's population as a whole. This potential demand is due both to the increase in the number of these households and to their greater preference for this kind of housing. Households with children will account for only about 20 percent of the demand for housing in transit zones.

Overall, job growth near transit stations in the Bay Area is expected to be substantial. At least 780,000 new jobs are expected within walking distance of transit stations, representing at least a 54% increase over current levels. Although the CTOD/SE and Projections '03 estimates differ slightly in terms of where these jobs are likely to locate, it is clear that the most urbanized portions of the region will attract the greatest numbers of new jobs near transit.

^{*}The Smart Growth Vision extends its estimates to the year 2020

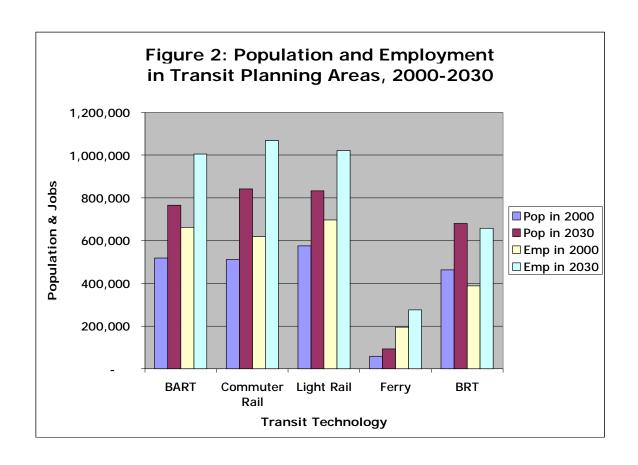
Table 2: Jobs in Transit Planning Areas: Existing and Demand

	Census 2000 Jobs	CTOD/SE Year 2030 Jobs	ABAG Projections Year 2030 '03 Jobs	Smart Growth Vision Jobs*
Alameda	325,500	388,000	517,800	549,100
Contra Costa	93,700	188,200	148,500	122,500
Marin	35,800	65,200	54,700	37,900
Napa	9,100	29,500	12,200	13,700
San Francisco	475,600	611,500	675,200	601,200
San Mateo	132,000	233,600	225,500	192,900
Santa Clara	368,100	589,700	629,600	497,000
Solano	14,000	52,600	30,700	53,500
Sonoma	17,100	100,700	37,100	43,100
Bay Area Total 1,471,100		2,259,200	2,331,300	2,110,900
Percentage increase		54%	58%	43%

Source: ABAG and SE

When arrayed by transit technology, Projections '03 shows that BART, Commuter Rail and Light Rail station areas will attract the greatest amount of population and jobs in the future, with Bus Rapid Transit and Ferries accommodating lesser amounts. Growth in population close to existing transit is forecast to be about four times as high in absolute numbers as in areas close to Res. 3434 new stations, (437,000 vs. 107,000). About two-thirds (68%) of the growth around existing and future stations in Proj '03 is around existing transit stations; this figure could increase to 70% according to the Smart Growth Vision. This suggests that while we are currently focusing on the opportunities around future transit stations included in Res. 3434, due to the opportunity to better link new transit expansion investments with local land use policies, there is also a very significant TOD opportunity around existing transit stations.

^{*}The Smart Growth Vision estimates are for year 2020



V. WHAT TYPES OF TOD OPPORTUNITIES DOES THE BAY AREA PROVIDE?

The TOD market assessment indicates that up to a 1/3 of new housing units and close to half of all new jobs in the region could desire locations that are within walking distance of transit by 2030.

To understand the order-of-magnitude potential for TOD on the ground and to better pinpoint where these opportunities exist, two assessments of capacity were undertaken. First, existing TOD projects deemed to be exemplary were analyzed in order to create a TOD typology that would categorize stations according to the context of the neighborhoods in which they are located, and to suggest minimum densities, a mix of land uses and amenities, and level of transit.

This typology is put forward as a starting point for defining the common types of TOD and distinguishing them from each other in terms of their role and function within regional systems.⁸

Center for Transit-Oriented Development • 5/25/05 • 7

The few Transic Town, Editors Dittinar and Official, 2001.

⁸ The New Transit Town, Editors Dittmar and Ohland, 2004.

Table 3: Typology of TOD Place-Types

TOD Type	Land Use Mix	Minimum Housing Density	Regional Connectivity	Frequencies
Urban Downtown	Office Center	>60 units/acre	High	<10 minutes
	Urban Entertainment		Hub of Radial System	
	Multifamily Housing			
	Retail			
Urban Neighborhood	Residential Retail	>20 units/acre	Medium Access to Downtown	10 minutes peak 20 minutes off- peak
	Class B Commercial		Subregional Circulation	·
Suburban Center	Primary Office Center Urban Entertainment Multifamily Housing	>50 units/acre	High Access to Downtown Subregional Hub	10 minutes peak 10-15 off-peak
	Retail			
Suburban Neighborhood	Residential	>12 units/acre	Medium	20 minutes peak
	Neighborhood Retail		Access to Suburban Centers and	30 minutes off- peak
	Local Office		Access to Downtown	
Commuter Town Center	Retail Center	>12 units/acre	Low Access to Downtown	Peak Service
	Residential			Demand Responsive

Source: CTOD

Then the corridors slated for enhancements and extensions under Res. 3434 were categorized according to a typology of transit modes and corridor scales based upon their potential for transit-oriented land use. The transit corridor typology is shown below in Table 4.

Table 4: Transit Corridor Typology

Category	Transit Mode	Distinguishing Characteristics	3434 Corridors
A	Heavy Rail	Dedicated ROW, high capacity service	BART
	Transit		
	Light Rail	Operates in dedicated ROW and/or mixed	Muni and VTA Light
В	Transit	traffic, high frequency, prepaid boarding	Rail Transit
		platforms	
С	Enhanced Bus	Operates in mixed traffic, rubber tires, longer	AC Transit Rapid Bus
	Service	stop spacing, more doors	
	Commuter Rail,	Shared track, peak-service, locomotive;	ACE, Capitol Corridor,
D	Ferry, Express	operates on water with point to point service;	CalTrain, WTA, AC
D	Bus	Bus with dedicated ROW, prepaid boarding	Transit Bus Rapid
		platforms, signal pre-emption	Transit
	Diesel Multiple	Dedicated ROW, interurban service	eBART, tBART,
Е	Unit		Dumbarton rail,
			SMART
F	Connector	Short distance intermodal connector	BART - Oakland
			Airport connector

Source: CTOD and Calthorpe Associates

Distribution of Station Areas by Typology

Next, existing and proposed station areas on the 3434 corridors were categorized according to CTOD's typology of TOD place types, shown in the following map (Figure 3), in order to distinguish each station area in terms of its role and function within the regional system. Station sites at which TOD is not feasible or planned (such as park and ride stations with little potential for change) fall outside this typology. This analysis is by no means intended to designate specific land use criteria to certain stations. It is merely a vehicle for assessing the potential for TOD in the region in a way that recognizes local conditions and the different functions of TOD.

The transit corridor and place type classifications were then combined to create a matrix of station areas by transit corridor and place type (Table 5). The numbers in each matrix cell indicate the number of station areas that fall into each category, for modes for which station area locations were available.

Table 5: Distribution of Transit Planning Areas (TPAs) for Residential 3434 Transit Extensions by Place-Types by Mode in the Bay Area

	CTOD PLACE TYPOLOGY						
	Urban	Urban	Suburb	Suburban	Commute	Neighborh	oTotals
Category	Downtov	v Neighborl	hc Center	Neighborh	cTown Cent	Transit Zor	ı€
A Heavy Rail Transit	3	4	2	1	-	1	11
B Light Rail Transit	9	4	13	6	-	-	32
C (Note 1)	х	Х	Х	Х	-	-	0
D Commercial Rail,	Ferry & tc.	8	7	7	11	17	58
E Diesel Multiple Un	iit -	3	7	4	7	2	23
F Connector	-	1	-	-	-	1	2
Tota	als 20	20	29	18	18	21	126

Note 1: Enhanced bus service not analyzed in this portion of study

Source: CTOD and Calthorpe Associates

As shown in Table 5, the predominate opportunities for TOD occur around BART, Commuter Rail, Light Rail and DMU stations and are likely to take on a very wide range of place types to reflect the range of local conditions in the region. When we look at Figure 3, we see that since Resolution 3434 projects extend from the urbanized portions of the region to less developed areas, the opportunities for TOD span a wide range of places, from urban to suburban locations.

Oakland/Emeryville/Berkeley Inset Downtown San Francisco Inset Morgan Hill Center for TOD Place Typology

7 Urban Downtown

1 Urban Neighborhood

8 Suburban Center Existing Transportation Corridor
Category A - Heavy Rail Transit Center for TOD Place & Transit Corridor Typologies Resolution 3434 Station and Expansion Corridor Evaluation Category B - Light Rail Transit MTC Transit-Oriented Development Policy Category C - Enhanced But Service Suburban Neighborhood Commuter Town Center Neighborhood Transit Zone Category D - Commuter Rail, Ferry, Express Bus Major Road Transit Corridor Typology* Category A - Heavy Rail Tran Category B - Light Rail Transit Category C - Enhanced Bus Service Category D - Commuter Rail, Ferry, Express Bus Category E - Diesel Multiple Unit Category F - Comessor Rail Service

*Does not include recort revisions to the Resolution 3434
list including ferry route expansion. Metropolitan Transportation Commission Oakland, CA Calthorpe Associates Berkeley, CA April 25, 2004

Figure 3: Place and Transit Corridor Typologies

VI. DISTRIBUTION OF FUTURE TOD OPPORTUNITIES BY PLACE TYPE

Meeting the demand for TOD in the Bay Area will require new ways of planning for change and a strong commitment by <u>all</u> stakeholders, both regional and local, to achieve this vision. The results, if demand is met, could have important positive impacts on the region's livability and economic strength: Young households seeking a fast-paced "urban" lifestyle will be able to find affordable housing in these types of neighborhoods; active older adults will be able to finding housing in neighborhoods where shops and services are within walking distance and trip to cultural events can be made on transit; employers can be comforted that employees won't be stuck in traffic getting to work; low income job-seekers will have greater employment opportunities; the regional cost of streets, parking and highway facilities will be lower, thus freeing up funds for improving transit service or making neighborhood centers more attractive; and, if done well, TOD can build household wealth and support more affordable lifestyles by reducing auto expenses.

There is clearly a tremendous opportunity in all counties of the Bay Area for TOD. But achieving success will require surmounting a complex set of barriers:

- Lack of TOD Vision Though the Smart Growth Vision helped raise awareness in the region about the potential benefits of clustering growth near transit, there is more work that is needed to translate that vision to address local concerns and find strategies for addressing issues of regional significance, such as the provision of housing near transit service
- **Few Benchmarks for Success** Though a number of TOD projects have come "on-line" in the past five years, there is little common agreement on what constitutes success and how both local communities and regional agencies measure performance. This leads to confusion among stakeholders as they attempt to plan for and execute development around transit stations. More standardized methods of collecting and analyzing data are necessary to build a body of knowledge that is specific to the region and is framed in terms of TOD.
- Incompatible Zoning Only a handful of local jurisdictions in the Bay Area have adopted zoning that can deliver the vitality and mix of uses TOD needs. Absent local regulations that allow TOD "as-of-right", each proposed project will face unnecessary time delays and complexity.
- Auto-Oriented Street and Parking Standards As with zoning, local street
 design standards and parking requirements can have a tremendous impact on
 whether a TOD successfully promotes walking and transit. Very few good
 models are available in this region to help guide local practitioners and policymakers.
- Constrained Sites Our cursory review of TOD sites in the Bay Area show that many are already developed with underperforming uses or are constrained through fragmented parcelezation patterns. Though not insurmountable barriers,

- tools and techniques are needed to help developers easily assemble property in key station areas.
- Community Resistance to Change Since TOD takes place on sites that are generally surrounding by development or include established communities, citizens are often vocal. New and inclusive methods of pro-active community participation are needed to ensure that citizen concerns are heard and addressed at appropriate times, are informed by facts, and do not unnecessarily delay specific development proposals that fit with local visions.
- Lack of Coordination Among Transit Agencies The Bay Area's local and regional transit agencies have a long history of working individually, not together. Yet TOD is the place where multiple transit and transportation systems converge. Making TOD a viable development prototype is going to require a renewed commitment on the part of transit agencies to work together on routing, scheduling and facility provision.
- Lack of Coordination Among Local Jurisdictions Transit is by its nature not defined by jurisdictional boundaries, but by transportation corridors that often span multiple jurisdictions. Indeed, a number of the region's TOD opportunity sites touch several local jurisdictions. Incentives are needed to develop collaborative land use planning among cities and counties.
- Limited Funds for Station Area Planning and TOD The complexity of
 factors and the variety of stakeholders involved in TOD indicates that planning
 and design issues are best addressed at the scale of the place, not an individual
 land use development project. Yet there are limited sources of funding for these
 efforts.

VII. HOW CAN MTC HELP PROMOTE TOD IN THE BAY AREA?

- **Leadership** MTC has a policy mandate to contribute to building a future Bay Area that is livable for its residents, supports a healthy economy, promotes social equity, and protects and enhances the natural environment. In its role as the region's transportation funding agency, MTC can show leadership in these areas by allocating funding consistently to projects that help achieve the region's goals.
- **Accountability** –The agency's public mandate is to make sound financial decisions. Establishing, applying and maintaining clear standards for the allocation of regional transportation funds on the basis of clear and supportable land use expectations is part of this role.
- Guidance Many of the activities local governments will need to engage in order to promote TOD will require new methods and techniques. As funding permits, MTC should provide guidance materials and performance data to those communities wishing to develop high performing projects around transit facilities.
- Support for New TOD and TOD along Existing Transit Service—In exchange for asking local jurisdictions along the Resolution 3434 corridors to plan for TOD and meet corridor level development expectations, MTC ought to provide

resources for planning at the corridor and station area levels. This will help convene the wide range of stakeholders within each corridor and support high quality placemaking at specific station areas. However, solely focusing on the Resolution 3434 corridors will be insufficient to accommodate the regional need for transit-oriented development. Effort should be made to create a comparable planning and funding programs for these communities.

• Constancy – Each transit corridor in the region is governed by a unique set of physical, social and political factors. Yet MTC's role is to provide a regional perspective and keep track of the region's ability to meet its long-term goals. Consistent application of transit-oriented development policies will help keep the region on track to success.